

Faking Fireworks

Jeremy Schwartz

1 The Problem

We all know how difficult it is to deal with actual pyrotechnics in theater today. For all intents and purposes, real pyrotechnics are a thing of the past. Of course, we still want to be able to accomplish the effect of fireworks if a director requests it. This paper attempts to tackle the issue of producing realistic fireworks without the fire. Specifically, we are going to look at mimicking a simple bottle rocket from launch to detonation.

This problem divides neatly into three phases. The first phase is the launching of the rocket. The second phase is the rocket's flight through the air. The third phase is, of course, the explosion. Each of these phases will be dealt with in turn

2 Launch

When a bottle rocket is launched, there are two main effects: a tiny red burst of light, and a bottle-whistling that comes from the rocket discharge passing over the mouth of the bottle. (Bottle rockets got their name because they are commonly launched out of long-neck glass beer bottles.)

The sound can be imitated by simply using a can of compressed air with a trigger, like the type used to clean keyboards. If the air is directed over the mouth of a beer bottle at about a 15° angle, it will sound just like a bottle rocket launch. It will take a decent amount of positioning to get the sound just right, as the angle of the air stream alters the sound a lot. As such, the best method for producing this sound is probably offstage, into a microphone. This way, the air can and a beer bottle can be fixed in place once the right sound is produced, and all you have to do is turn on the microphone and pull the trigger at the right time.

The speck of light is dealt with in the next section, since producing a stationary speck of light is trivial compared to producing a rapidly moving one.

3 Flight

As stated above, the major component to a bottle rocket in flight is the light flare. This effect can be omitted if it is too difficult to pull off, but it will add a real element of realism to the effect since most bottle rockets do have this element.

The issue here is producing light that will move quickly from the stage to the top of the proscenium, or wherever you've set up your burst. To make your life easier, consider using a little rock instead of an actual light. Paint the rock with red blacklight paint (i.e. phosphorescent paint), and use a leko with a blacklight and a tightly shuttered beam. If your actors aren't wearing white clothing, some blacklight spillage will go unnoticed. Secure the rock to a rope (if you use a cat's paw, then just paint the knot since the rock won't

be seen), and string the rope up through the catwalks. In order to achieve this effect, you need to be in a theater that has a lot of head room, so chances are you'll have at least some semblance of a gridiron.

Finally, to get the rock to fly into the air, simply use the sandbag method. String the rope through a pulley, run it backstage, and then through another pulley. Then, to the backstage end of the rope, attach a weight. When you want the rock to fly, just drop the weight. Use a soft weight or put a mattress below it to avoid making noise. You don't need a lot of weight!

You can even have the rock travel diagonally using this method, by simply having an actor hold the rock in his hand before 'lighting' the rocket. Then your actor can be on one side of the stage while the pulley is on the other side.

4 Boom

Finally, the explosion. This part is relatively simple. Just use a large flash for the light effect. A color gel in front of the flash makes a cool effect, and most bottle rockets are colored. For the sound, you can use clapping blocks, or if you're allowed, a firecracker is safe and effective. The sound can be done over a microphone, but for extra realism, have somebody in the catwalks make the sound near the flash.

5 General

Obviously, mimicking a bottle rocket is always going to require suspension of disbelief. The audience knows that it's not a real rocket. Still, you can make it look good. Keep the stage relatively dark (after all, it should be nighttime). Execute it quickly, so the audience doesn't have time to examine an element and say 'that's not quite right.' If you manage to pull it off, it will be impressively real.